Jurisdictional Delineation Report for the Calavo Drive Drainage Improvement Project, San Diego, California (WA#-FCDT 00255)

Prepared for

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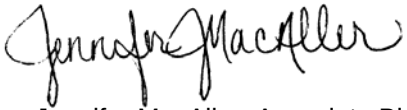

Jennifer MacAller, Associate Biologist

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1.0 Summary of Findings

RECON conducted a routine wetland delineation for the Calavo Drive Drainage Improvement Project along a disturbed portion of Mexican Canyon Creek that bisects Calavo Drive between Louisa Drive and Rancho Road in the unincorporated community of Casa de Oro. The purpose of this report is to provide the results of the delineation of wetlands and non-wetland waters of the U.S. under the jurisdiction of the U.S. Army Corps of Engineers (ACOE) with respect to the Clean Water Act and streambeds and riparian habitat under jurisdiction of the California Department of Fish and Game (CDFG) that occur in the survey area, assess impacts, and propose mitigation for the drainage improvement project.

Methods for delineating wetlands followed guidelines set forth by the U.S. Army Corps of Engineers, including the *Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (ACOE 1987, 2006).

A total of 0.028 acres (383 linear feet) of ACOE jurisdictional resources were delineated in the survey area (Table 2). Wetland sites, which total 0.011 acre, exhibited positive indicators of each of the three criteria: hydrophytic vegetation, hydric soils, and wetland hydrology. A portion of the creek has been delineated as a non-wetland water of the U.S., totaling 0.017 acre. The proposed project would permanently impact 0.004 acre of ACOE jurisdictional resources, including 0.002 acre of wetlands and 0.002 acre of non-wetland waters (Table 3). Temporary impacts to ACOE jurisdictional resources would total 0.010 acre, including 0.001 acre of wetlands and 0.009 acre of non-wetland waters.

CDFG jurisdictional resources were also delineated on-site (see Table 2). CDFG jurisdiction totals 0.057 acre, which includes the 0.028 acre of ACOE wetlands and non-wetland waters and additional riparian habitat outside the ordinary high water mark. In addition, the width of the channel within the disturbed wetland was generally mapped larger for CDFG, as the full bank width was larger than the ordinary high water mark. Permanent impacts to CDFG jurisdictional resources total 0.007 acre of streambed. Temporary impacts would occur to 0.017 acre of streambed. No temporary or permanent impacts would occur to riparian habitat.

Impacts to jurisdictional resources on-site would require a 404 Nationwide Permit, a 1600 Streambed Alteration Agreement from CDFG, and a 401 certification from the California Regional Water Quality Control Board (RWQCB). Typically, the threshold for impacts authorized under the Section 404 Nationwide Permit Program is less than 0.5 acre or 300 linear feet. Through coordination with the applicant, ACOE may use this delineation report as reference during a site visit to make the final determination as to the jurisdictional nature of the site.

Authorized impacts to jurisdictional resources would require mitigation through habitat creation, enhancement, or preservation to achieve a no-net-loss of jurisdictional resources, as determined by a qualified restoration specialist in consultation with the regulatory agencies. The expected mitigation ratio for permanent impacts to non-wetland waters/streambed is 1:1, and for wetlands/riparian habitat is 2:1; therefore, 0.007 acre of mitigation may be required.

2.0 Introduction

This report describes the results of a wetland delineation conducted within the 2.47-acre Calavo Drive Drainage Improvement survey area consisting of a 0.45-acre construction limits and a surrounding 100-foot buffer. A wetland delineation is used to identify and map the extent of the wetlands and waters of the U.S. and to provide information regarding jurisdictional issues. The proposed project is the replacement of an existing sixty-inch (60") corrugated metal pipe (CMP) type culvert. Photograph 1 shows the existing CMP culvert as viewed from the western portion of the survey area. The new culvert will consist of a ten-foot by seven-foot (10'x7') box culvert approximately 95 feet long (approximately 115 feet wide with wing walls). Rip rap energy dissipaters will be placed at the inlet and outlet of the culvert.

The site is along a disturbed drainage (Mexican Canyon Creek) that bisects Calavo Drive between Louisa Drive and Rancho Road in the unincorporated community of Casa de Oro (Figure 1). The survey area is shown on the U.S. Geological Survey (USGS) El Cajon quadrangle, Township 16 South, Range 1 West, Section 27 (Figure 2). Figure 3 provides an aerial photograph of the construction limits and survey area.

3.0 Survey Methods

A routine wetland delineation, following the guidelines set forth by ACOE (1987, 2006), was performed to gather field data at potential wetland sites in the survey area. RECON biologist Jennifer MacAller conducted the field work on the morning of April 5, 2009.

Prior to conducting the delineation, the United States Geological Survey (USGS) El Cajon quadrangle topographic map was examined. Once on-site, the potential jurisdictional areas were examined to determine the presence of any of the three wetland parameters or drainage channels. The remainder of the survey area was also examined in the field for the presence of potential waters of the U.S.

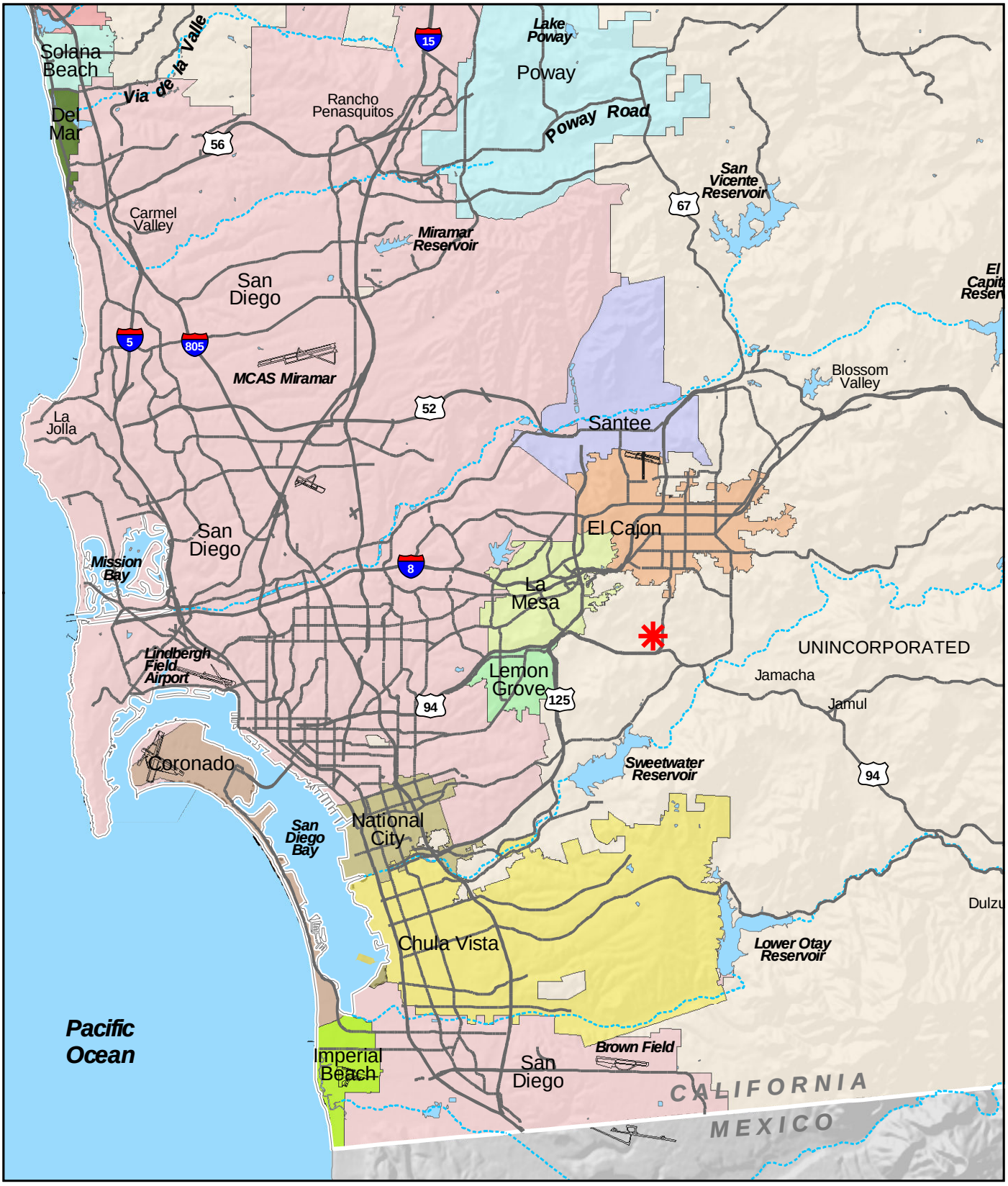

FIGURE 1

Regional Location

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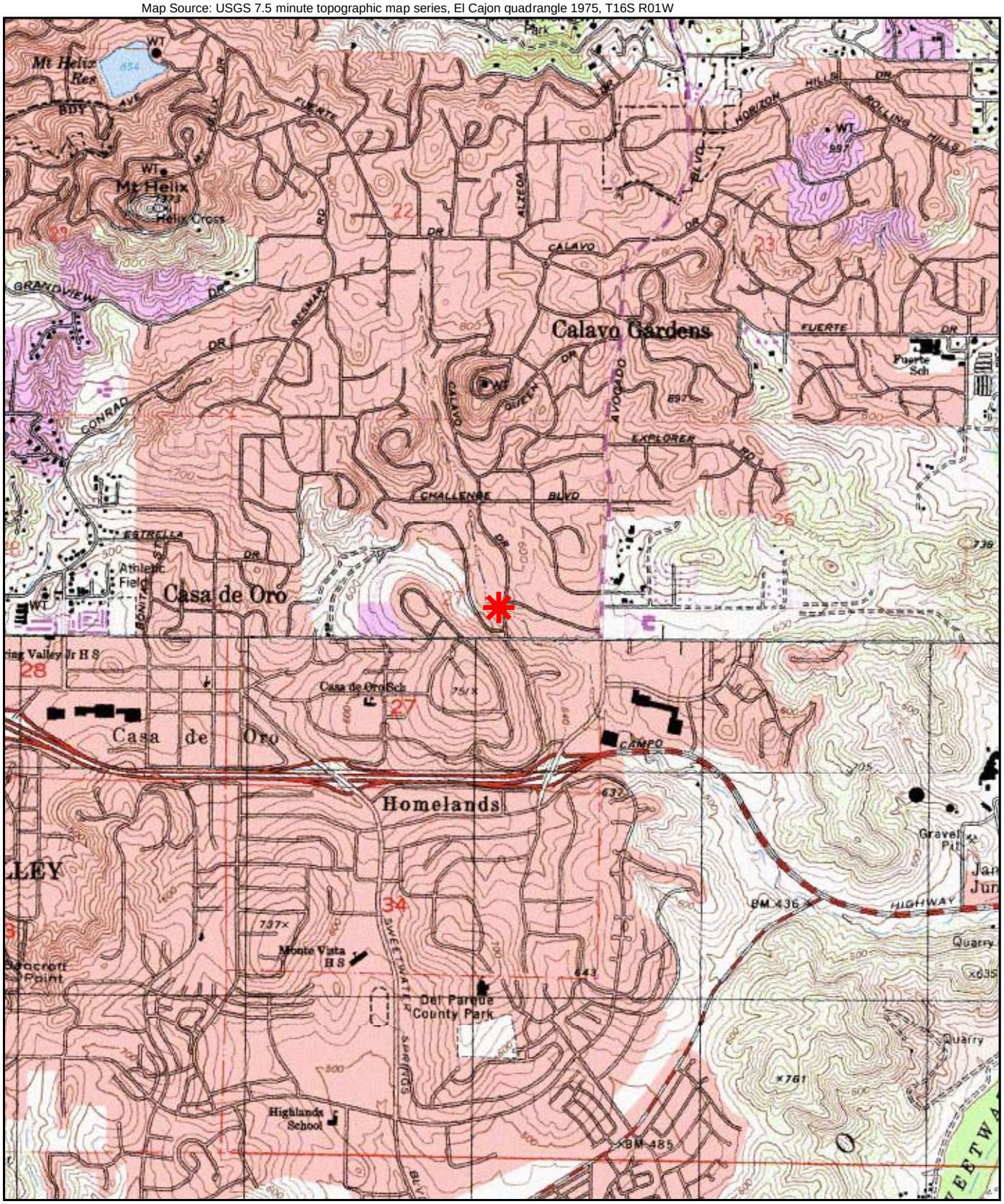
Map Source: USGS 7.5 minute topographic map series, El Cajon quadrangle 1975, T16S R01W



Project Location

FIGURE 2

Project Location on USGS Map

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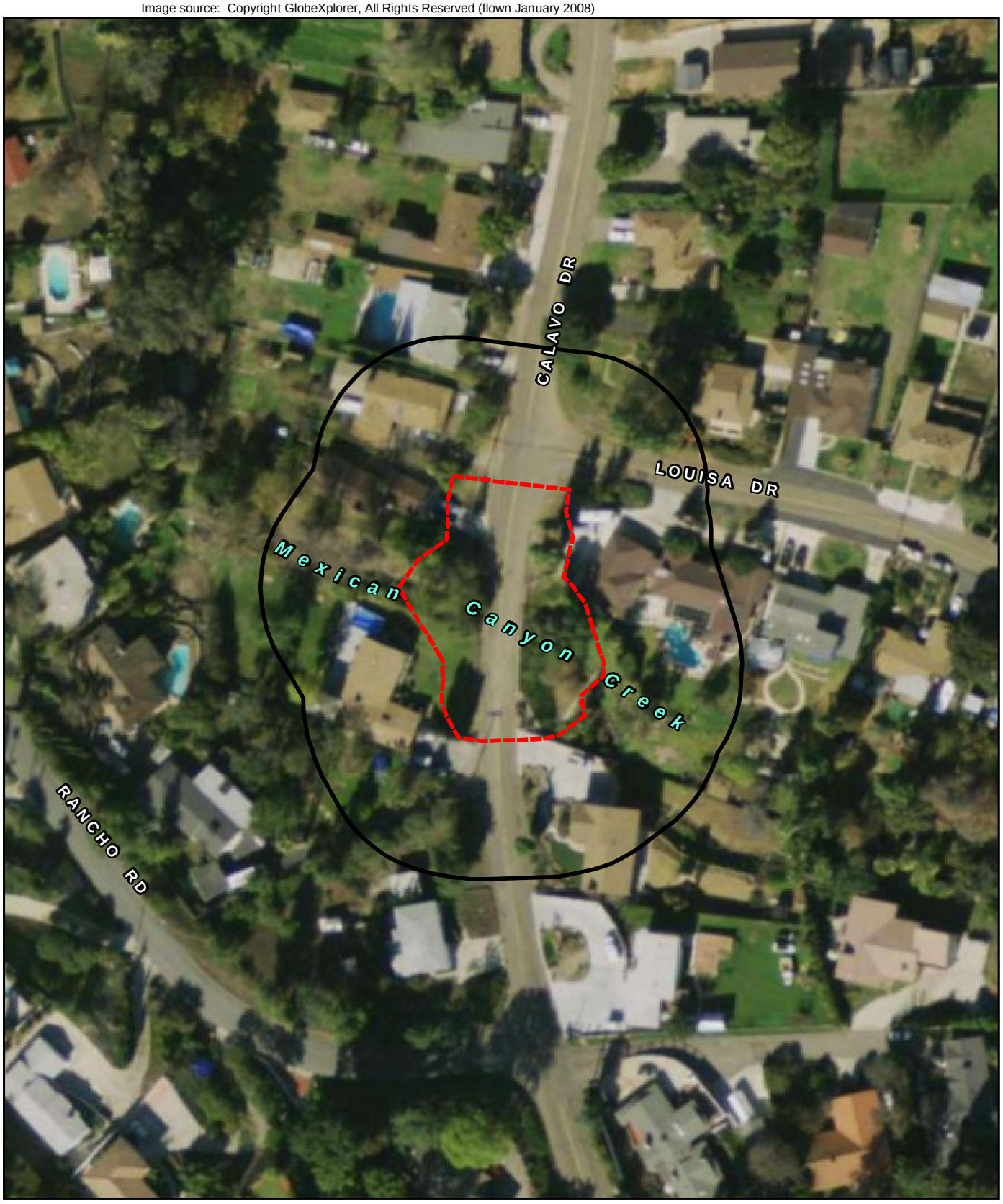

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Survey Area

Construction Limits

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FIGURE 3

Aerial Photograph of Project Location

PHOTOGRAPH 1
Existing Culvert as Viewed from the Western Portion of Survey Area

PHOTOGRAPH 2
Scattered Freemont Cottonwoods with Disturbed Wetland

3.1 ACOE Resource Definitions

3.1.1 Wetlands

As stated in the federal regulations for the Clean Water Act (CWA), wetlands are defined as:

> Those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances, do support a prevalence of vegetation typically adapted for life in saturated soil conditions.
>
> (EPA, 40 CFR 230.3 and CE, 33 CFR 328.3)

3.1.1.1 Normal Circumstances

The definition of a wetland includes the phrase “under normal circumstances” because there are situations in which the vegetation of a wetland has been removed or altered as a result of recent natural events or human activities (ACOE 1987).

To describe these altered conditions, ACOE included definitions for atypical situations and problem areas. They are as follows:

> Atypical situation: . . . refers to areas in which one or more parameters (vegetation, soil, and/or hydrology) have been sufficiently altered by recent human activities or natural events to preclude the presence of wetland indicators of the parameter (ACOE 1987).
>
> Problem areas: . . . wetland types in which wetland indicators of one or more parameters may be periodically lacking due to normal seasonal or annual variations in environmental conditions that result from causes other than human activities or catastrophic natural events. Representative examples of problem areas include seasonal wetlands, wetlands on drumlins, prairie potholes, and vegetated flats (ACOE 1987).

Atypical situations and problem areas may lack one or more of the three criteria and still be considered wetlands if background information on the previous condition of the area and field observations indicate that the missing wetland criteria were present before the disturbance and would occur at the site under normal circumstances. Additional delineation procedures would be employed if normal circumstances did not occur on a site.

No problem wetland areas or atypical situations were found in the Calavo Drive survey area. The current site conditions are presumed to be the "normal circumstances" and a routine delineation method was used.

3.1.1.2 Wetland Parameters

Wetlands are delineated using three parameters: hydrophytic vegetation, wetland hydrology, and hydric soils. According to ACOE, indicators for all three parameters must be present to qualify as a wetland.

3.1.1.2.1 Hydrophytic Vegetation

Hydrophytic vegetation is defined as "the sum total of macrophytic plant life growing in water or on a substrate that is at least periodically deficient in oxygen as a result of excessive water content" (ACOE 1987). The potential wetland areas were surveyed by walking throughout the site and making observations of those areas exhibiting characteristics of jurisdictional waters or wetlands. Vegetation units with the potential to be wetlands were examined, and data for each vegetation stratum (i.e., tree, shrub, herb, and vine) were recorded on the datasheet provided in the 2006 Arid Supplement (ACOE 2006). The percent absolute cover of each species present was visually estimated and recorded.

The wetland indicator status of each species recorded was determined by using the list of wetland plants for California provided by the United States Fish and Wildlife Service (USFWS 1997). An OBL (obligate) indicator status refers to plants that have a 99 percent probability of occurring in wetlands under natural conditions. A FACW (facultative wet) indicator status refers to plants that occur in wetlands (67–99 percent probability), but are occasionally found in non-wetlands. A FAC (facultative) indicator status refers to plants that are equally likely to occur in wetlands or non-wetlands (estimated probability 34–66 percent). Facultative upland (FACU) species are more often found in upland sites. Upland (UPL) species have a high probability to occur in upland sites. An NI indicator status refers to species that have insufficient data available to determine an indicator status at this time for the local region.

Plant species nomenclature follows that contained in *The Jepson Manual* (Hickman 1993). Dominant species with an indicator status of "NI" (not indicated) or not listed in the 1997 list were evaluated as either wetland or upland indicator species based on local professional knowledge of where the species is most often observed in habitats characteristic in southern California.

There are three indicators or tests to determine hydrophytic vegetation on a site, the dominance test, prevalence index, and morphological adaptations. The 50/20 rule is a repeatable and objective procedure for selecting dominant plant species and is recommended when data are available for all species in the community (ACOE 2006).

Dominant species are those plants that individually or collectively contribute more than 50 percent of the total vegetative cover within each vegetation stratum plus those species that, by themselves, comprise 20 percent or more of the total cover within each vegetation stratum.

If the vegetation at a particular site passes the dominance test (using the 50/20 rule), the hydrophytic vegetation criterion is considered fulfilled. If it fails the dominance test, and positive indicators of hydric soils and/or wetland hydrology are present, it is necessary to apply the prevalence index. The prevalence index is a weighted-average wetland indicator status of all plant species at a test site, where each indicator status category is given a numeric code and weighting by percent cover (ACOE 2006). If a prevalence index is 3.0 or less, the hydrophytic vegetation criterion is considered fulfilled.

If a site fails the prevalence index and positive indicators of hydric soils and/or wetland hydrology are present, it is necessary to assess the presence or absence of morphological adaptations. To apply this indicator, morphological features must be observed on more than 50 percent of the individuals of a FACU species living in an area where indicators of hydric soil and wetland hydrology are present (ACOE 2006). Once this indicator is applied, the dominance test and/or the prevalence index are/is recalculated using a FAC indicator status of this species (ACOE 2006).

3.1.1.2.2 Hydric Soils

A hydric soil is a soil that is saturated, flooded, or ponded long enough during the growing season to develop anaerobic conditions that favor the growth and regeneration of hydrophytic vegetation (ACOE 1987). Hydric soil indicators are formed predominantly by the accumulation or loss of iron, manganese, sulfur, or carbon compounds (ACOE 2006). The hydric soil criterion is considered fulfilled at a location, if soils in the area can be inferred to have a high groundwater table, evidence of prolonged soil saturation, or any indicators suggesting a long-term reducing environment in the upper 18 inches of the soil profile.

Sample points were selected within potential wetland areas and where the apparent boundary between wetland and upland was inferred based on changes in the composition of the vegetation and topography. Soil pits were dug to a depth of at least 18 inches or to a depth necessary to determine soil color, evidence of soil saturation, depth to groundwater, and indicators of a reducing soil environment (e.g., mottling, gleying, and sulfidic odor).

Hydric soil indicators are presented in three groups in the Arid Supplement (ACOE 2006) “all soils,” “sandy soils,” and “loamy and clayey soils.” Indicators applicable to all soil textures are indicated as A1 through A10 on the datasheet and include histosols, histic epipedon, stratified layers, and muck, among others. Indicators in sandy soils are noted as S1 through S6 and include sandy gleyed matrix, sandy redox, and stripped matrix. F1

(loamy mucky mineral) through F9 (vernal pools) are indicators of hydric conditions within loamy and clayey soils. A complete description of each of the hydric soil indicators is provided in the 2006 Arid Supplement.

3.1.1.2.3 Wetland Hydrology

The presence of wetland hydrology indicators confirm that inundation or saturation has occurred on a site, but may not provide information about the timing, duration, or frequency of the event. Hydrology features are generally the most ephemeral of the three wetland parameters (ACOE 2006).

In the 2006 Arid Supplement, wetland hydrology indicators are divided into four groups. Those that are determined based on direct observation are in Group A. These include the presence of surface water, a high water table, and saturation. Water marks, drift deposits, surface soil cracks, and other indicators of flooding or ponding fall within Group B. Group C consists of indicators that provide indirect evidence that a site was saturated recently, such as the presence of sulfidic odors or oxidized rhizoshperes along living roots. Finally, Group D consists of vegetation and soil features that indicate recent wet conditions, such as the FAC-neutral test or a shallow aquitard (ACOE 2006). These indicators are further classified as primary or secondary indicators.

Hydrologic information for the site was obtained by reviewing USGS topographic maps and by directly observing hydrology indicators in the field. The wetland hydrology criterion is considered fulfilled at a location if, based upon the conclusions inferred from the field observations, an area has a high probability of being periodically inundated or has soils saturated to the surface for a sufficient period of time during the growing season to develop anaerobic conditions in the surface soil environment, especially the root zone (ACOE 1987). If at least one primary indicator or at least two secondary indicators are found at a sample point, the wetland hydrology criterion is considered fulfilled.

3.1.2 Non-wetland Jurisdictional Waters

The ACOE also requires the delineation of non-wetland jurisdictional waters. These waters must have strong hydrology indicators such as the presence of seasonal flows and an ordinary high watermark. An ordinary high watermark is defined as:

> . . . that line on the shore established by the fluctuations of water and indicated by physical characteristics such as [a] clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas (33 CFR Part 328.3).

Areas delineated as non-wetland jurisdictional waters may lack wetland vegetation or hydric soil characteristics. Hydric soil indicators may be missing because topographic position precludes ponding and subsequent development of hydric soils. Absence of wetland vegetation can result from frequent scouring due to rapid water flow. These types of jurisdictional waters are delineated by the lateral and upstream/downstream extent of the ordinary high watermark of the particular drainage or depression.

In the field, biologists walked the length of the drainage except where the terrain prohibited access. The lateral upstream/downstream extent of each drainage was mapped on aerial photographs if evident and later digitized into ArcGIS or marked in the field with global positioning system (GPS) technology. The width of each drainage, noted at the ordinary high water mark, was measured at intermittent locations in the field where transitions were apparent. The width and length of each non-wetland water were analyzed in ArcGIS to provide acres.

3.2 ACOE Regulatory Jurisdiction

ACOE, through the authority of Section 404 of the Clean Water Act (CWA) and Section 10 of the Rivers and Harbors Act, is the primary agency involved in wetland regulation. The Environmental Protection Agency (EPA) has the authority to veto any decision by the ACOE on permit issuance, as the EPA has the final authority over enforcement of wetland regulations.

3.2.1 Regulatory Definitions

In accordance with Section 404 of the CWA, ACOE regulates the discharge of dredged and/or fill material into waters of the United States. The term “waters of the United States” is defined as [33 CFR Part 328.3(a)]:

- All waters currently used, or used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters subject to the ebb and flow of the tide;
- All interstate waters including interstate wetlands;
- All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation or destruction of which could affect foreign commerce including any such waters: 1) which could be used by interstate or foreign travelers for recreational or other purposes; or 2) from which fish or shell fish are or could be taken and sold in interstate or foreign commerce; or 3) which are used or could be used for industries in interstate commerce;

- All other impoundments of waters otherwise defined as waters of the U.S. under the definition;
- Tributaries of waters identified above;
- The territorial seas; and
- Wetlands adjacent to waters (other than waters that are themselves wetlands) identified in the paragraphs above. The definition of "adjacent" follows:

  > "Adjacent wetlands are defined as wetlands that are bordering, contiguous, or neighboring. Wetlands separated from other waters of the United States by man-made dikes or barriers, natural river berms, beach dunes, and the like are 'adjacent wetlands'[40 CFR Part 230.3 (b)]."

The limits of ACOE regulation over tidal waters of the United States extend to the high tide line. The high tide line is the intersection of the land with the water's surface at the maximum height reached by a rising tide, not including storm surges which exceed the normal or predicted reach of the tide (Wetland Training Institute 2001).

3.2.2 Permits

Within areas delineated as jurisdictional waters of the U.S. and adjacent wetlands, all activities resulting in the discharge of fill material require a permit from ACOE. Discharge of fill material relates to the following activities: the building of any structure or impoundment requiring rock, sand, dirt, or other material necessary for construction; site-development fills for recreational, industrial, and/or commercial uses; causeways or road fills, including bridges; dams and dikes; pier and/or dock construction; artificial islands; and property protection and/or reclamation devices such as riprap, seawalls, and breakwaters (33 CFR 323.2[f]).

The CWA requires a Section 404 permit be obtained prior to any obstructions of navigable capacity within waters of the U.S. The Rivers and Harbors Act of 1899 (33 USC 401-403) defines navigable waters of the U.S. as those waters that are subject to the ebb and flow of the tide and/or are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce. A determination of navigability, once made, applies laterally over the entire surface of the water body, and is not extinguished by later actions or events that impede or destroy navigable capacity (33 CFR 329.4).

ACOE has a general permit program (Nationwide Permits) in place to cover minor fills, given that "general conditions" can be met (ACOE 1991). If the proposed impacts are greater than the threshold limits of the nationwide permits or the "general conditions"

cannot be satisfied, a CWA individual permit would need to be processed through the ACOE.

3.2.3 Pertinent Supreme Court Decisions

Three Supreme Court cases have shaped the current understanding of federal jurisdiction over wetlands and waters of the U.S. In 1985, the court decision in *United States v. Riverside Bayview Homes, Inc.* (474 U.S. 121; Riverside Bayview) upheld ACOE jurisdiction and Section 404's applicability to interstate waters, "navigable waters," and waters and wetlands adjacent to or connected to navigable waters (Pooley 2002). In the *Riverside Bayview* case, the Court found that "Congress' concern" for the protection of water quality and aquatic ecosystems indicated its intent to regulate wetlands "inseparably bound up with" jurisdictional waters (474 U.S. at 134; ACOE 2003).

On January 9, 2001, the Supreme Court of the United States issued a decision on *Solid Waste Agency of Northern Cook County* (SWANCC) *v. United States Army Corps of Engineers, et al.* with respect to whether the use of an isolated, intrastate pond by migratory birds is sufficient interstate commerce to warrant ACOE jurisdiction over that pond pursuant to Section 404 of the CWA. As federal regulatory authority only extends to activities that affect interstate commerce pursuant to Article 1, Section 8 of the U.S. Constitution, ACOE restricted its jurisdiction on isolated (intrastate) waters, such as ponds or vernal pools lacking connection to waters of the U.S. prior to 1985. On September 12, 1985, the EPA issued a memorandum asserting ACOE jurisdiction over isolated waters that are used or could be used by migratory birds or endangered species (ACOE 1998). This assertion became known as the "Migratory Bird Rule." Consequently, the definition of "waters of the United States" in ACOE regulations was modified to include isolated waters, such as vernal pools or mining ponds, which qualified under the Migratory Bird Rule.

In SWANCC, the Supreme Court essentially stated that the Migratory Bird Rule does not sufficiently qualify an isolated pond for ACOE jurisdiction. The SWANCC ruling, however, did not refute the 1985 decision made by the Court in *Riverside Bayview.* The SWANCC ruling denied ACOE jurisdiction over "non-navigable, isolated, intrastate" waters based only on use by migratory birds, but did not strike down any regulation or definition of "water of the United States" or adjacency.

The *Rapanos v. United States* and *Carabell v. United States* cases (referred to collectively as the Rapanos case) heard by the Supreme Court in 2006 questioned whether the CWA covers wetlands that do not contain, and are not adjacent to, traditional navigable waters (Environmental Law Institute [ELI] 2007). The consolidated case included two lower court cases in which the ACOE had asserted jurisdiction over two different scenarios. At the first site, the wetlands shared a surface water connection with non-navigable tributaries of navigable waters. At the second site, the wetlands were

separated by a berm from non-navigable tributaries of navigable waters. The Supreme Court overturned the ACOE's assertion of jurisdiction at each of these sites and returned the cases back to the lower courts with a 5-4 decision. However, the 5-4 decision was split 4-1-4. The four dissenting justices, in an opinion authored by Justice Stevens, concluded that EPA's and the Corps' interpretation of "waters of the United States" was a reasonable interpretation of the Clean Water Act (ACOE 2007). The five justices invalidating the lower court's decision did not agree on the reason the wetlands were not jurisdictional.

Justice Scalia, representing the four justices in agreement, and Justice Kennedy, in a solo opinion, wrote separate opinions, thereby, providing two separate tests or approaches from which the lower courts would now need to apply (ELI 2007). Justice Scalia's opinion would limit CWA jurisdiction to wetlands that are both adjacent to and have a continuous surface connection with "relatively permanent" bodies of water "connected to" traditional interstate navigable waters. Justice Kennedy wrote in his opinion that he concurred with the judgment to return the cases to the lower courts and defined CWA jurisdiction over wetlands adjacent to non-navigable tributaries where the wetlands have a "significant nexus" with navigable waters (ELI 2007).

Due to the split decision on the Rapanos case, there is some uncertainty as to how the the lower courts will apply the decision. Justice Kennedy's opinion that a "significant nexus" is required seems to have become the criteria from which to determine CWA jurisdiction for many courts, including the Ninth Circuit Court.

On June 5, 2007, the EPA and the ACOE issued guidance on how agency representatives will deal with CWA jurisdiction in light of the Rapanos decision. The effect of the joint guidance is that each jurisdictional delineation will include a determination of significant nexus and that each jurisdictional determination made by the ACOE will be coordinated with the EPA. The public review period for the guidance expired on January 21, 2008. On January 28, 2008, the ACOE published a memorandum outlining the coordination procedures for all jurisdictional determinations involving a significant nexus determination.

As the courts produce decisions on a variety of cases, the result of the Rapanos decision will unfold. The ACOE will likely resolve jurisdictional issues on a case-by-case basis for some time. The definition of CWA jurisdiction will continue to be an evolving issue for the unforeseeable future.

3.3 CDFG Jurisdiction

Under Sections 1600–1607 of the Fish and Game Code, CDFG regulates activities that would divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake that supports fish or wildlife. CDFG has jurisdiction

over riparian habitats (e.g., southern willow scrub) associated with watercourses. CDFG jurisdictional resources are delineated by the outer edge of riparian vegetation or at the top of the bank of streams or lakes, whichever is wider.

4.0 Results of Field Data

A description of the major vegetation units observed, soil types encountered, and a discussion of the local hydrology in the survey area are presented below. Copies of the field data form summarizing information on vegetation, soils, and hydrology observed at the sample site is provided in Attachment 1.

4.1 Vegetation

Five vegetation communities/land cover types have been mapped within the survey area: disturbed wetland, non-vegetated channel, southern riparian forest, coast live oak woodland, and urban/developed (Figure 4). Each of these vegetation communities/land cover types is described below. Vegetation community/land cover type classifications follow Holland (1986) as modified by Oberbauer (1996). Table 1 lists the vegetation communities and acreages.

TABLE 1
VEGETATION COMMUNITIES/LAND COVER TYPES

Type or Community (Modified Holland Code)	Acres
Disturbed Wetland (11200)	0.019
Non-Vegetated Channel (13200)	0.017
Southern Riparian Forest (61300)	0.021
Coast Live Oak Woodland (71160)	0.006
Urban/Developed (12000)	2.411
TOTAL	2.474

4.1.1 Areas Supporting Hydrophytic Vegetation

4.1.1.1 Disturbed Wetland (0.019 acre)

As Mexican Canyon Creek enters the survey area, it is has been classified as a disturbed wetland vegetation community and is vegetated mostly with non-native herbaceous plants and annual grasses, including watercress (*Nasturtium officinale*; OBL), annual beard grass (*Polypogon monspeliensis*; FACW), and wild oats (*Avena* sp.;

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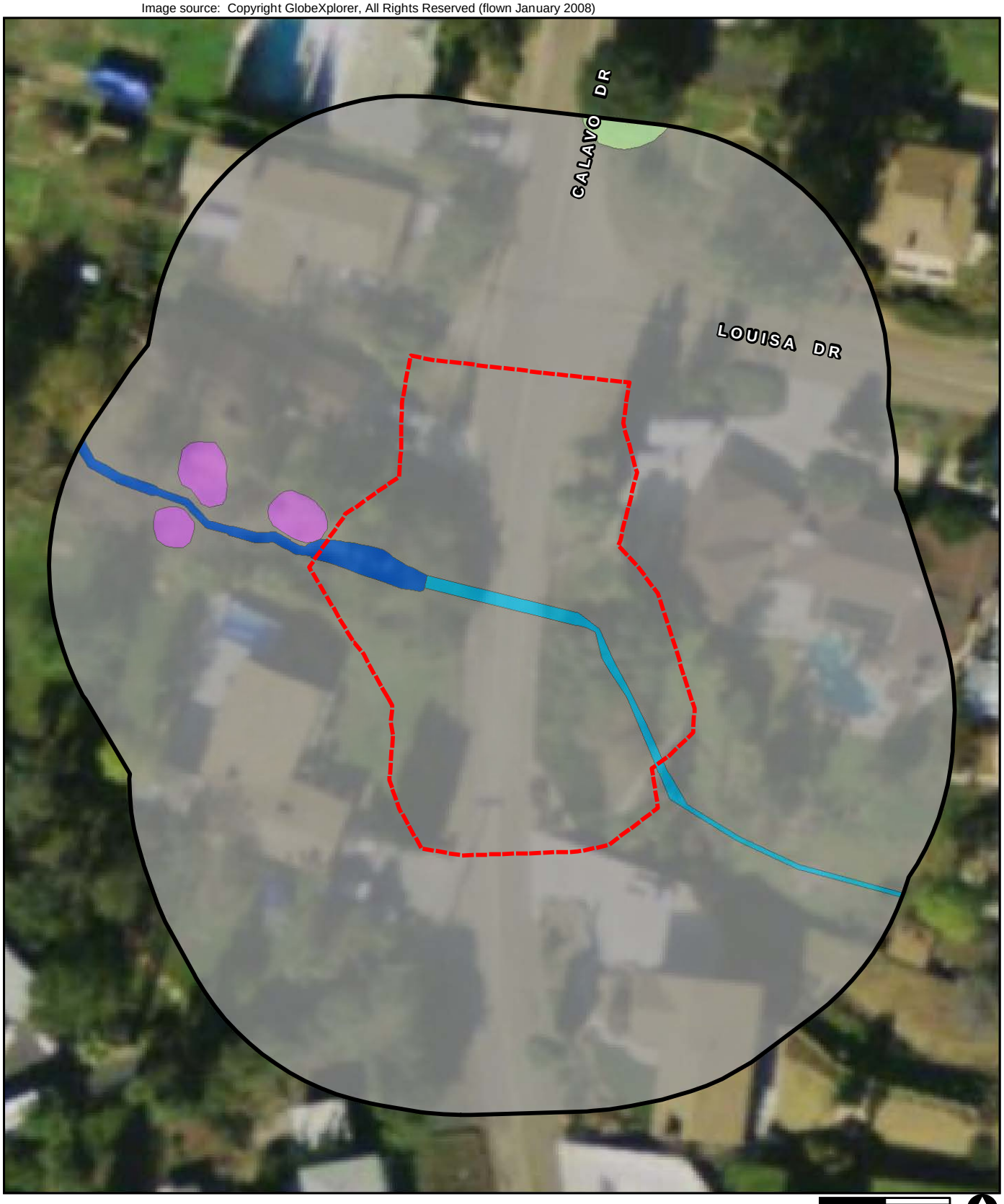

Survey Area

Construction Limits

VEGETATION COMMUNITES

Disturbed Wetland (11200)

Non-vegetated Channel (13200)

Coast Live Oak Woodland (71160)

Southern Riparian Forest (61300)

Urban/Developed (12000)

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FIGURE 4

Existing Biological Resources

UPL). The banks are dominated by bermuda grass (*Cynodon dactylon*; FAC) and various low-growing landscape plants. One large mule fat (*Baccharis salicifolia*: FACW) occurs on the north bank. A patch of spikerush (*Eleocharis* sp.; FACW) occurs within the Bermuda grass on the south bank.

4.1.1.2 Southern Riparian Forest (0.021 acre)

Three Fremont cottonwood (*Populus fremontii*; FACW) trees occur on the west side of the survey area (Photograph 2). These trees are remnants of a riparian overstory and total approximately 0.021 acre. The canopies of the cottonwoods have been pruned, likely by the local residents.

4.1.2 Areas Lacking Hydrophytic Vegetation

4.1.2.1 Non-Vegetated Channel (0.017 acre)

East of Calavo Drive, the drainage has been highly modified and is channelized into a linear drainage approximately 2.5 feet wide. No native biological features occur in this segment, the banks are vegetated with landscape species such as purple trailing lantana (*Lantana montevidensis*) and various iceplants (*Mesembryanthemum* sp. and *Carpobrotus* sp.). Photograph 3 shows the non-vegetated channel east of Calavo Drive.

4.1.2.2 Coast Live Oak Woodland (0.006 acre)

Within the survey area, one remnant coast live oak (*Quercus agrifolia*; 0.006 acre) occurs on the northeast corner of Louisa Drive and Calavo Drive. This tree is located outside of the APE, and is considered remnant trees and does not constitute a Coast Live Oak Woodland community.

4.1.2.3 Urban/Developed (2.411 acres)

The majority of the survey area (2.411 acres) consists of residential homes, landscape plants, and paved roads.

4.2 Soils

The Soil Survey for San Diego County has identified one soil series, Diablo-Urban land complex, 5 – 15 percent slopes in the survey area (U.S. Department of Agriculture [USDA] 1973). A soils map of the site is provided in Figure 5. Information obtained from the following sources is summarized below: Soil Survey for San Diego County (USDA 1973), Soil Taxonomy (USDA 1975), and the local hydric soil list obtained from the Natural Resources Conservation Service (NRCS).

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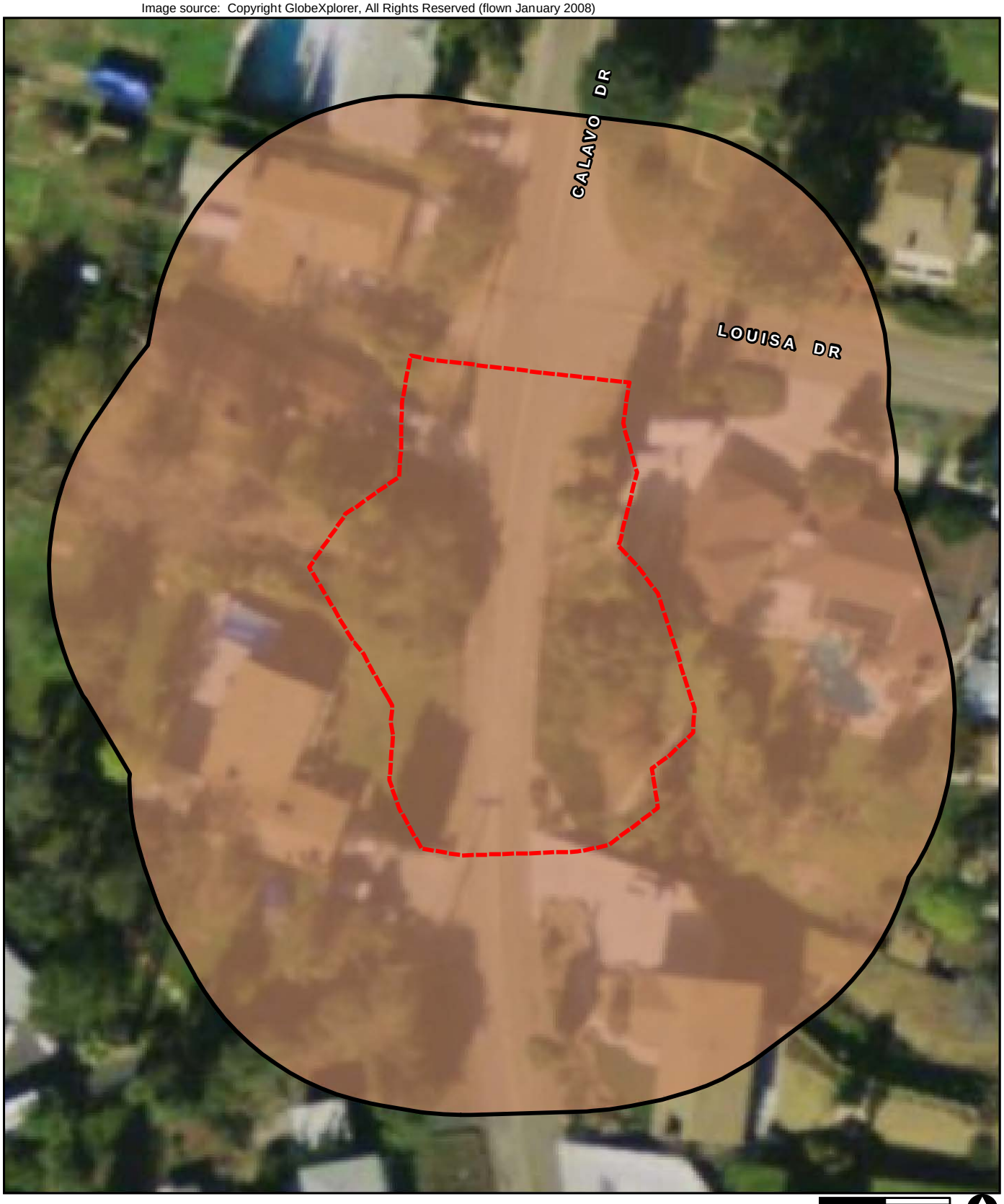

Survey Area

Construction Limits

SOIL TYPE

Diablo-Urban Land Complex, 5 to 15 Percent Slopes

RECON

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FIGURE 5
Soil Types

PHOTOGRAPH 3
Non-Vegetated Channel East of Calavo Drive

PHOTOGRAPH 4
Mexican Canyon Creek is Dammed Just West of the Survey Area

The Diablo soil series are typically well-drained moderately deep to deep clays derived from soft calcareous sandstone and shale. The Diablo-Urban land complex has been altered by cut and fill operations.

The soil matrix observed in the survey area was sandy loam with an overall color of brown (10 YR 3/2). Hydric soil indicators observed on-site included the presence of reduced conditions (10 YR 3/1) and a hydrogen sulfide odor.

4.3 Hydrology

Mexican Canyon Creek, as named in The Thomas Guide (1998), begins as a spring north of the survey area near Fuerte Drive and flows in a south and southeasterly direction through the communities of Casa de Oro and Rancho San Diego along Highway 94 until it reaches the Sweetwater River just southeast of the Highway 94 and Highway 54 intersection.

Through passive and active means, the natural vegetation on this portion of Mexican Canyon Creek has been almost entirely replaced by non-native vegetation, and the channel has been altered in various ways. Just upstream of the site a dam has been constructed (Photograph 4). A pipe in the dam allows water to flow through the slightly curving creek bottom until it reaches the CMP at Calavo Drive. East of Calavo Drive, the creek is channelized as it passes by more homes and crosses beneath Avocado Boulevard, eventually emptying into the Sweetwater River.

Mexican Canyon Creek is a “blue-line” drainage on the USGS El Cajon Quadrangle. Significant flows were observed during the surveys outside of any recent rain events. The creek appears to be at least seasonally flowing, relatively permanent water.

Wetland hydrology indicators noted in the survey area include the presence of surface water, sediment deposits, and drift lines. In addition, aquatic invertebrates were observed.

5.0 Assessment of Jurisdiction

This delineation represents RECON’s best professional judgment based on field work conducted in April 2009. The ACOE and CDFG would make the final determination of the jurisdictional status of the resources mapped on-site. Figures 6 and 7 depict the location of jurisdictional resources delineated in the survey area.

A total of 0.028 acres (383 linear feet) of ACOE jurisdictional resources were delineated in the survey area (Table 2). Wetland sites, which total 0.011 acre, exhibited positive indicators of each of the three criteria: hydrophytic vegetation, hydric soils, and wetland

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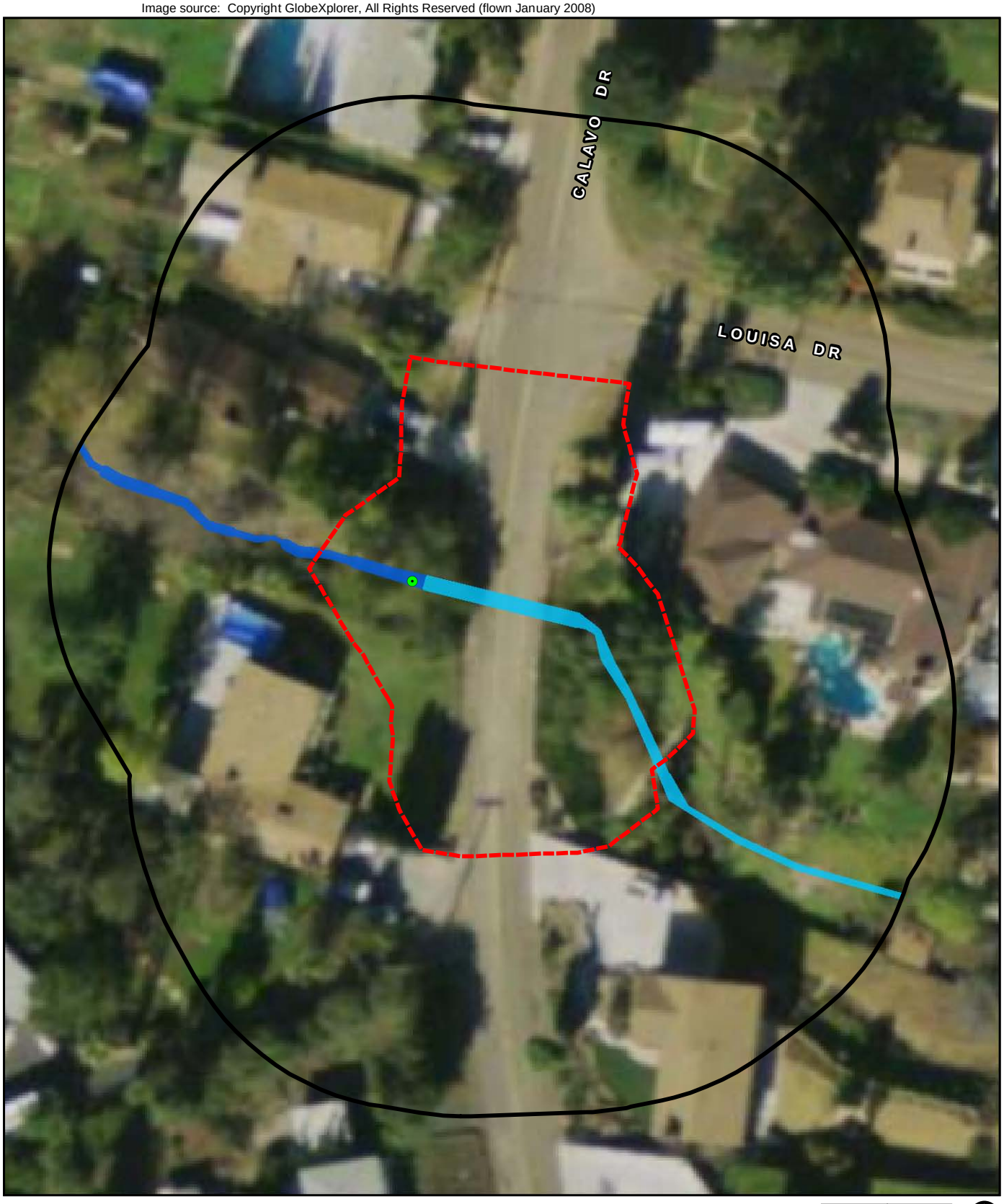

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FIGURE 6

Existing ACOE Jurisdictional Resources

Image source: Copyright GlobeXplorer, All Rights Reserved (flown January 2008)

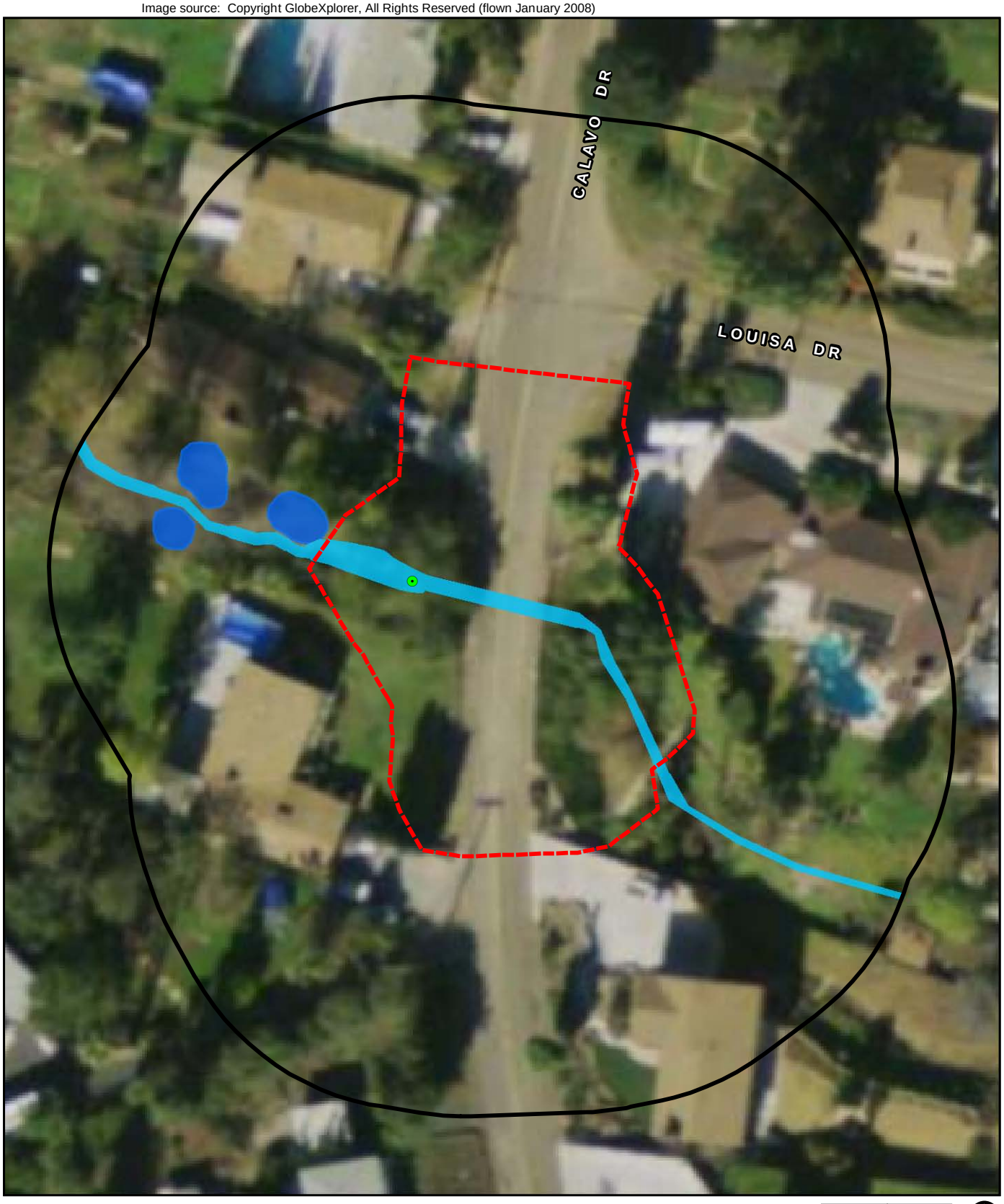

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FIGURE 7

Existing CDFG Jurisdictional Resources

hydrology. A portion of the creek has been delineated as a non-wetland water of the U.S., totaling 0.017 acre.

CDFG jurisdictional resources were also delineated on-site (see Table 2). CDFG jurisdiction totals 0.057 acre, which includes the 0.028 acre of ACOE wetlands and non-wetland waters and additional riparian habitat outside the ordinary high water mark. In addition, the width of the channel within the disturbed wetland was generally mapped larger for CDFG, as the full bank width was larger than the ordinary high water mark.

TABLE 2
JURISDICTIONAL RESOURCES IN THE CALAVO DRIVE DRAINAGE IMPROVEMENT SURVEY AREA

Jurisdictional Resources	Acres
ACOE Resources	**0.028**
Wetland	0.011
Non-wetland waters	0.017
CDFG Resources	**0.057**
Streambed	0.036
Riparian habitat	0.021

6.0 Assessment of Impacts and Recommended Mitigation

Permanent and temporary impacts are proposed for the drainage improvement project (Figures 8 and 9). Permanent impacts have been calculated for the rip rap and the portion of box culvert that extends beyond Calavo Drive. The flow of water in the non-vegetated channel, including beneath Calavo Drive, and the surrounding habitat will be allowed to return to its current condition; therefore, these impacts are considered temporary.

The proposed project would permanently impact 0.004 acre of ACOE jurisdictional resources, including 0.002 acre of wetlands and 0.002 acre of non-wetland waters (Table 3). Temporary impacts to ACOE jurisdictional resources would total 0.010 acre, including 0.001 acre of wetlands and 0.009 acre of non-wetland waters.

Permanent impacts to CDFG jurisdictional resources total 0.007 acre of streambed. Temporary impacts would occur to 0.017 acre of streambed. No temporary or permanent impacts would occur to riparian habitat.

Impacts to jurisdictional resources in the survey area would require a 404 Nationwide Permit, a 1600 Streambed Alteration Agreement from CDFG, and a 401 certification from the California RWQCB. Typically, the threshold for impacts authorized under the

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Survey Area
Construction Limits
Existing Conditions
Proposed Project Site Plan

Permanent Impacts
Temporary Impacts

ACOE JURISDICTIONAL WATERS
Disturbed Wetland
Non-wetland Waters
Sample Point

0 Feet 50

RECON

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FIGURE 8

Impacts to ACOE Jurisdictional Resources

Image source: Copyright GlobeXplorer, All Rights Reserved (flown January 2008)

Survey Area
Construction Limits
Existing Conditions
Proposed Project Site Plan

Permanent Impacts
Temporary Impacts

CDFG JURISDICTIONAL WATERS
Riparian
Streambed
Sample Point

0 Feet 50

RECON

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FIGURE 9

Impacts to CDFG Jurisdictional Resources

Section 404 Nationwide Permit Program is less than 0.5 acre or 300 linear feet; therefore, this project is expected to be authorized under the Nationwide Permit Program.

Authorized impacts to jurisdictional resources would require mitigation through habitat creation, enhancement, or preservation to achieve a no-net-loss of jurisdictional resources, as determined by a qualified restoration specialist in consultation with the regulatory agencies. The expected mitigation ratio for permanent impacts to non-wetland waters/streambed is 1:1, and for wetlands/riparian habitat is 2:1; therefore, 0.007 acre of mitigation may be required.

TABLE 3
JURISDICTIONAL RESOURCES PERMANENT IMPACTS AND EXPECTED MITIGATION FOR THE CALAVO DRAINAGE IMPROVEMENT PROJECT

Jurisdictional Resources	Existing Acres	Permanent Impact Acres	Temporary Impact Acres	Total Impact
ACOE Resources[1]	**0.028**	**0.004**	**0.010**	**0.014**
Wetland	0.011	0.002	0.001	0.003
Non-wetland waters	0.017	0.002	0.009	0.011
CDFG Resources[1]	**0.057**	**0.007**	**0.017**	**0.024**
Riparian habitat	0.036	--	--	--
Streambed	0.021	0.007	0.017	0.024*

*This includes impacts to ACOE jurisdictional resources; therefore, 0.007-acre is the expected maximum mitigation acreage needed for impacts.

1. Impacts have been identified and mitigation specified in previous MND prepared for the RGP-53 program. Agency permits issued previously as part of the RGP-53 program.

The County of San Diego maintains and operates more than 1,080 facilities (i.e. culverts, bridges, road side ditches, drainage channels, and road dips) throughout San Diego County. The County of San Diego Department of Public Works periodically conducts routine flood control maintenance of these facilities to prevent flooding and erosion of adjacent roadways or flooding of residential or commercial property. The maintenance activities include silt, sand, debris and vegetation removal. These activities are necessary to ensure that storm flows can pass through these sites with minimal risk of loss of life and property damage from the storm events. The frequency with which these maintenance activities are conducted varies from site to site, but ranges from more than twice per year to once every five years or longer. Many of these facilities occur along natural or modified stream courses that are under the jurisdiction of the U.S. Army Corps of Engineers, the RWQCB, and/or the CDFG. Most of the proposed activities are also regulated by these agencies. Activities which impact or could potentially impact federally endangered or threatened species are regulated by the USFWS. The ongoing maintenance activities are being conducted in compliance with the requirements of

Regional General Permit 53 (RGP 53). Environmental review for this program was conducted and a Negative Declaration was adopted by the County of San Diego Board on Supervisors, and subsequent Mitigation Monitoring Plan in December 1998. The Calavo Drainage Improvement project is one of the facilities that is included under the RGP-53 program, specifically, FC-103.

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ATTACHMENTS

ATTACHMENT 1

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Calavo Drive Culvert Improvement Project City/County: San Diego Sampling Date: 4/5/09

Applicant/Owner: County of San Diego State: CA Sampling Point: 1

Investigator(s): J. MacAller Section, Township, Range: Section 27, Township 16 South, Range 1 West

Landform (hillslope, terrace, etc.): creek Local relief (concave, convex, none): concave Slope (%): 2 %

Subregion (LRR): LRR C Lat: 32.7512 Long: 116.9668 Datum:

Soil Map Unit Name: Diablo-Urban land complex, 15 to 50 % slopes NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)

Are Vegetation , Soil , or Hydrology significantly disturbed? No Are "Normal Circumstances" present? Yes X No

Are Vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	X	No	
Hydric Soil Present?	Yes	X	No	
Wetland Hydrology Present?	Yes	X	No	

Is the Sampled Area within a Wetland? **Yes** X **No**

Remarks: disturbed wetland

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Washingtonia sp.*	5	Yes	FACU
2. *Schinus molle*	15	Yes	UPL
3.			
4.			
Total Cover:	20	(50%=	20%=)
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:		(50%=	20%=)
Herb Stratum			
1. *Polypogon monspeliensis*	5	No	FACW
2. *Nasturtium officinale*	50	Yes	OBL
3. *Avena sp.*	10	No	UPL
4. *Sonchus*	2	No	FACU
5.			
6.			
7.			
8.			
Total Cover:	67	(50%=	20%=)
Woody Vine Stratum			
1.			
2.			
Total Cover:		(50%=	20%=)

% Bare Ground in Herb Stratum 30 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	50	x 1 =	50
FACW species		x 2 =	
FAC species		x 3 =	
FACU species	5	x 4 =	20
UPL species	15	x 5 =	75
Column Totals:	75	(A)	145 (B)

Prevalence Index = B/A = 1.93

Hydrophytic Vegetation Indicators:

- Dominance Test is >50%
- X Prevalence Index is ≤3.0[1]
- Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes X No

Remarks:

SOIL Sampling Point: 1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2	10 YR 3/2	100					sandy loam	
2-18	10 YR 3/1	100					sandy loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- X Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- X Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- X Aquatic Invertebrates (B13)
- X Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- X Water Marks (B1) (Riverine)
- ___ Sediment Deposits (B2) (**Riverine**)
- X Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Thin Muck Surface (C7)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes X No ___ Depth (inches): <6

Water Table Present? Yes X No ___ Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): ___

Wetland Hydrology Present? Yes X No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

APPROVED JURISDICTIONAL DETERMINATION FORM
U.S. Army Corps of Engineers

This form should be completed by following the instructions provided in Section IV of the JD Form Instructional Guidebook.

SECTION I: BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR APPROVED JURISDICTIONAL DETERMINATION (JD):

B. DISTRICT OFFICE, FILE NAME, AND NUMBER:

C. PROJECT LOCATION AND BACKGROUND INFORMATION:

State:California County/parish/borough: San Diego City: N/A

Center coordinates of site (lat/long in degree decimal format): Lat. 32.7512 ° **N**, Long. -116.9668 ° **E**.

Universal Transverse Mercator: 503,106 E / 3,623,715 N

Name of nearest waterbody: Mexican Canyon Creek

Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: South SD Bay via Sweetwater River

Name of watershed or Hydrologic Unit Code (HUC): Sweetwater River (909.1 or 909.2)

☒ Check if map/diagram of review area and/or potential jurisdictional areas is/are available upon request.

☐ Check if other sites (e.g., offsite mitigation sites, disposal sites, etc…) are associated with this action and are recorded on a different JD form.

D. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):

☐ Office (Desk) Determination. Date:

☐ Field Determination. Date(s):

SECTION II: SUMMARY OF FINDINGS

A. RHA SECTION 10 DETERMINATION OF JURISDICTION.

There **Appear to be no** *"navigable waters of the U.S."* within Rivers and Harbors Act (RHA) jurisdiction (as defined by 33 CFR part 329) in the review area. [*Required*]

☐ Waters subject to the ebb and flow of the tide.

☐ Waters are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce.
Explain: .

B. CWA SECTION 404 DETERMINATION OF JURISDICTION.

There **Are** "*waters of the U.S.*" within Clean Water Act (CWA) jurisdiction (as defined by 33 CFR part 328) in the review area. [*Required*]

1. Waters of the U.S.

a. Indicate presence of waters of U.S. in review area (check all that apply): [1]

☐ TNWs, including territorial seas
☐ Wetlands adjacent to TNWs
☒ Relatively permanent waters[2] (RPWs) that flow directly or indirectly into TNWs
☐ Non-RPWs that flow directly or indirectly into TNWs
☐ Wetlands directly abutting RPWs that flow directly or indirectly into TNWs
☐ Wetlands adjacent to but not directly abutting RPWs that flow directly or indirectly into TNWs
☐ Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs
☐ Impoundments of jurisdictional waters
☐ Isolated (interstate or intrastate) waters, including isolated wetlands

b. Identify (estimate) size of waters of the U.S. in the review area:
Non-wetland waters: 383 total (w/ wet) linear feet: width (ft) and/or 0.17 acres.
Wetlands: 0.011 acres.

c. Limits (boundaries) of jurisdiction based on: **Established by OHWM.**
Elevation of established OHWM (if known):560 feet.

.

2. Non-regulated waters/wetlands (check if applicable):[3]

☐ Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional.
Explain: .

[1] Boxes checked below shall be supported by completing the appropriate sections in Section III below.
[2] For purposes of this form, an RPW is defined as a tributary that is not a TNW and that typically flows year-round or has continuous flow at least "seasonally" (e.g., typically 3 months).
[3] Supporting documentation is presented in Section III.F.

SECTION III: CWA ANALYSIS

A. TNWs AND WETLANDS ADJACENT TO TNWs

The agencies will assert jurisdiction over TNWs and wetlands adjacent to TNWs. If the aquatic resource is a TNW, complete Section III.A.1 and Section III.D.1. only; if the aquatic resource is a wetland adjacent to a TNW, complete Sections III.A.1 and 2 and Section III.D.1.; otherwise, see Section III.B below.

1. TNW
Identify TNW: **N/A**.

Summarize rationale supporting determination: N/A.

2. Wetland adjacent to TNW
Summarize rationale supporting conclusion that wetland is "adjacent": N/A.

B. CHARACTERISTICS OF TRIBUTARY (THAT IS NOT A TNW) AND ITS ADJACENT WETLANDS (IF ANY):

This section summarizes information regarding characteristics of the tributary and its adjacent wetlands, if any, and it helps determine whether or not the standards for jurisdiction established under *Rapanos* have been met.

The agencies will assert jurisdiction over non-navigable tributaries of TNWs where the tributaries are "relatively permanent waters" (RPWs), i.e. tributaries that typically flow year-round or have continuous flow at least seasonally (e.g., typically 3 months). A wetland that directly abuts an RPW is also jurisdictional. If the aquatic resource is not a TNW, but has year-round (perennial) flow, skip to Section III.D.2. If the aquatic resource is a wetland directly abutting a tributary with perennial flow, skip to Section III.D.4.

A wetland that is adjacent to but that does not directly abut an RPW requires a significant nexus evaluation. Corps districts and EPA regions will include in the record any available information that documents the existence of a significant nexus between a relatively permanent tributary that is not perennial (and its adjacent wetlands if any) and a traditional navigable water, even though a significant nexus finding is not required as a matter of law.

If the waterbody[4] is not an RPW, or a wetland directly abutting an RPW, a JD will require additional data to determine if the waterbody has a significant nexus with a TNW. If the tributary has adjacent wetlands, the significant nexus evaluation must consider the tributary in combination with all of its adjacent wetlands. This significant nexus evaluation that combines, for analytical purposes, the tributary and all of its adjacent wetlands is used whether the review area identified in the JD request is the tributary, or its adjacent wetlands, or both. If the JD covers a tributary with adjacent wetlands, complete Section III.B.1 for the tributary, Section III.B.2 for any onsite wetlands, and Section III.B.3 for all wetlands adjacent to that tributary, both onsite and offsite. The determination whether a significant nexus exists is determined in Section III.C below.

1. Characteristics of non-TNWs that flow directly or indirectly into TNW

(i) General Area Conditions:
Watershed size: 230 **square miles**
Drainage area: **acres**
Average annual rainfall: 10.9 (Note: data from nearest reporting station within range of elevation: Lower Otay Reservoir) inches
Average annual snowfall: 0 inches

(ii) Physical Characteristics:
(a) Relationship with TNW:
☐ Tributary flows directly into TNW.
☒ Tributary flows through **2** tributaries before entering TNW.

Project waters are **5-10** river miles from TNW.
Project waters are **Pick List** river miles from RPW.
Project waters are **2-5** aerial (straight) miles from TNW.
Project waters are **Pick List** aerial (straight) miles from RPW.
Project waters cross or serve as state boundaries. Explain: N/A.

[4] Note that the Instructional Guidebook contains additional information regarding swales, ditches, washes, and erosional features generally and in the arid West.

Identify flow route to TNW[5]: Mexican Canyon Creek (RPW) flows southwestardly to Sweetwater River (RPW) and into the South SD Bay (TNW).
Tributary stream order, if known: Unknown.

(b) General Tributary Characteristics (check all that apply):
Tributary is: ☒ Natural
☐ Artificial (man-made). Explain: .
☒ Manipulated (man-altered). Explain: dammed, culverted, channelized, constrained.

Tributary properties with respect to top of bank (estimate):
Average width: ~2-6 feet
Average depth: less than one feet
Average side slopes: **2:1.**

Primary tributary substrate composition (check all that apply):

☐ Silts	☒ Sands	☐ Concrete
☒ Cobbles	☐ Gravel	☐ Muck
☒ Bedrock	☒ Vegetation. Type/% cover: Rorippa mostly	
☐ Other. Explain: .		

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain: relatively stable.
Presence of run/riffle/pool complexes. Explain: Not observed.
Tributary geometry: **Relatively straight**
Tributary gradient (approximate average slope): 2 %

(c) Flow:
Tributary provides for: **Seasonal flow**
Estimate average number of flow events in review area/year: **11-20**
Describe flow regime: Frequency moderate, Volume moderate, Duration moderate.
Other information on duration and volume: Unknown.

Surface flow is: **Confined**. Characteristics: .

Subsurface flow: **Unknown**. Explain findings: .
☐ Dye (or other) test performed: .

Tributary has (check all that apply):
☒ Bed and banks
☒ OHWM[6] (check all indicators that apply):

☒ clear, natural line impressed on the bank	☐ the presence of litter and debris
☒ changes in the character of soil	☐ destruction of terrestrial vegetation
☒ shelving	☐ the presence of wrack line
☒ vegetation matted down, bent, or absent	☐ sediment sorting
☐ leaf litter disturbed or washed away	☐ scour
☐ sediment deposition	☒ multiple observed or predicted flow events
☒ water staining	☐ abrupt change in plant community
☐ other (list):	

☐ Discontinuous OHWM.[7] Explain: .

If factors other than the OHWM were used to determine lateral extent of CWA jurisdiction (check all that apply):

☐ High Tide Line indicated by:	☐ Mean High Water Mark indicated by:
☐ oil or scum line along shore objects	☐ survey to available datum;
☐ fine shell or debris deposits (foreshore)	☐ physical markings;
☐ physical markings/characteristics	☐ vegetation lines/changes in vegetation types.
☐ tidal gauges	
☐ other (list):	

(iii) Chemical Characteristics:
Characterize tributary (e.g., water color is clear, discolored, oily film; water quality; general watershed characteristics, etc.).
Explain: Water appeared fairly clear with algae growing.
Identify specific pollutants, if known: .

[5] Flow route can be described by identifying, e.g., tributary a, which flows through the review area, to flow into tributary b, which then flows into TNW.
[6]A natural or man-made discontinuity in the OHWM does not necessarily sever jurisdiction (e.g., where the stream temporarily flows underground, or where the OHWM has been removed by development or agricultural practices). Where there is a break in the OHWM that is unrelated to the waterbody's flow regime (e.g., flow over a rock outcrop or through a culvert), the agencies will look for indicators of flow above and below the break.
[7]Ibid.

(iv) Biological Characteristics. Channel supports (check all that apply):

- ☒ Riparian corridor. Characteristics (type, average width): scattered cottonwood trees (3 remnant trees on-site).
- ☐ Wetland fringe. Characteristics: Coyote bush, Burrobush, Mule fat at furthest extent of wetland/riparian habitat.
- ☐ Habitat for:
  - ☐ Federally Listed species. Explain findings: .
  - ☐ Fish/spawn areas. Explain findings: .
  - ☐ Other environmentally-sensitive species. Explain findings: .
  - ☒ Aquatic/wildlife diversity. Explain findings: unidentified aquatic life in drainage.

2. Characteristics of wetlands adjacent to non-TNW that flow directly or indirectly into TNW

(i) Physical Characteristics:

(a) General Wetland Characteristics:

Properties:

Wetland size: acres

Wetland type. Explain: .

Wetland quality. Explain: .

Project wetlands cross or serve as state boundaries. Explain: .

(b) General Flow Relationship with Non-TNW:

Flow is: **Pick List**. Explain: .

Surface flow is**: Pick List**

Characteristics: .

Subsurface flow: **Pick List**. Explain findings: .

- ☐ Dye (or other) test performed: .

(c) Wetland Adjacency Determination with Non-TNW:

- ☐ Directly abutting
- ☐ Not directly abutting
  - ☐ Discrete wetland hydrologic connection. Explain: .
  - ☐ Ecological connection. Explain: .
  - ☐ Separated by berm/barrier. Explain: .

(d) Proximity (Relationship) to TNW

Project wetlands are **Pick List** river miles from TNW.

Project waters are **Pick List** aerial (straight) miles from TNW.

Flow is from: **Pick List.**

Estimate approximate location of wetland as within the **Pick List** floodplain.

(ii) Chemical Characteristics:

Characterize wetland system (e.g., water color is clear, brown, oil film on surface; water quality; general watershed characteristics; etc.). Explain: .

Identify specific pollutants, if known: .

(iii) Biological Characteristics. Wetland supports (check all that apply):

- ☐ Riparian buffer. Characteristics (type, average width): .
- ☐ Vegetation type/percent cover. Explain: .
- ☐ Habitat for:
  - ☐ Federally Listed species. Explain findings: .
  - ☐ Fish/spawn areas. Explain findings: .
  - ☐ Other environmentally-sensitive species. Explain findings: .
  - ☐ Aquatic/wildlife diversity. Explain findings: .

3. Characteristics of all wetlands adjacent to the tributary (if any)

All wetland(s) being considered in the cumulative analysis: **Pick List**

Approximately (N/A) acres in total are being considered in the cumulative analysis.

For each wetland, specify the following:

Directly abuts? (Y/N)	Size (in acres)	Directly abuts? (Y/N)	Size (in acres)
N/A			

Summarize overall biological, chemical and physical functions being performed: .

C. SIGNIFICANT NEXUS DETERMINATION

A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by any wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical, and biological integrity of a TNW. For each of the following situations, a significant nexus exists if the tributary, in combination with all of its adjacent wetlands, has more than a speculative or insubstantial effect on the chemical, physical and/or biological integrity of a TNW. Considerations when evaluating significant nexus include, but are not limited to the volume, duration, and frequency of the flow of water in the tributary and its proximity to a TNW, and the functions performed by the tributary and all its adjacent wetlands. It is not appropriate to determine significant nexus based solely on any specific threshold of distance (e.g. between a tributary and its adjacent wetland or between a tributary and the TNW). Similarly, the fact an adjacent wetland lies within or outside of a floodplain is not solely determinative of significant nexus.

Draw connections between the features documented and the effects on the TNW, as identified in the *Rapanos* Guidance and discussed in the Instructional Guidebook. Factors to consider include, for example:

- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to carry pollutants or flood waters to TNWs, or to reduce the amount of pollutants or flood waters reaching a TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), provide habitat and lifecycle support functions for fish and other species, such as feeding, nesting, spawning, or rearing young for species that are present in the TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to transfer nutrients and organic carbon that support downstream foodwebs?
- Does the tributary, in combination with its adjacent wetlands (if any), have other relationships to the physical, chemical, or biological integrity of the TNW?

Note: the above list of considerations is not inclusive and other functions observed or known to occur should be documented below:

1. **Significant nexus findings for non-RPW that has no adjacent wetlands and flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary itself, then go to Section III.D: N/A.

2. **Significant nexus findings for non-RPW and its adjacent wetlands, where the non-RPW flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D: N/A.

3. **Significant nexus findings for wetlands adjacent to an RPW but that do not directly abut the RPW.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D: N/A.

D. DETERMINATIONS OF JURISDICTIONAL FINDINGS. THE SUBJECT WATERS/WETLANDS ARE (CHECK ALL THAT APPLY):

1. **TNWs and Adjacent Wetlands.** Check all that apply and provide size estimates in review area:
   - ☐ TNWs: linear feet width (ft), Or, acres.
   - ☐ Wetlands adjacent to TNWs: acres.

2. **RPWs that flow directly or indirectly into TNWs.**
   - ☐ Tributaries of TNWs where tributaries typically flow year-round are jurisdictional. Provide data and rationale indicating that tributary is perennial: .
   - ☒ Tributaries of TNW where tributaries have continuous flow "seasonally" (e.g., typically three months each year) are jurisdictional. Data supporting this conclusion is provided at Section III.B. Provide rationale indicating that tributary flows seasonally: .

Provide estimates for jurisdictional waters in the review area (check all that apply):
☐ Tributary waters: linear feet width (ft).
☐ Other non-wetland waters: acres.
Identify type(s) of waters: .

3. **Non-RPWs[8] that flow directly or indirectly into TNWs.**
☐ Waterbody that is not a TNW or an RPW, but flows directly or indirectly into a TNW, and it has a significant nexus with a TNW is jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional waters within the review area (check all that apply):
☐ Tributary waters: linear feet width (ft).
☐ Other non-wetland waters: acres.
Identify type(s) of waters: .

4. **Wetlands directly abutting an RPW that flow directly or indirectly into TNWs.**
☐ Wetlands directly abut RPW and thus are jurisdictional as adjacent wetlands.
☐ Wetlands directly abutting an RPW where tributaries typically flow year-round. Provide data and rationale indicating that tributary is perennial in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: .

☐ Wetlands directly abutting an RPW where tributaries typically flow "seasonally." Provide data indicating that tributary is seasonal in Section III.B and rationale in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: .

Provide acreage estimates for jurisdictional wetlands in the review area: acres.

5. **Wetlands adjacent to but not directly abutting an RPW that flow directly or indirectly into TNWs.**
☐ Wetlands that do not directly abut an RPW, but when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisidictional. Data supporting this conclusion is provided at Section III.C.

Provide acreage estimates for jurisdictional wetlands in the review area: acres.

6. **Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs.**
☐ Wetlands adjacent to such waters, and have when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional wetlands in the review area: acres.

7. **Impoundments of jurisdictional waters.[9]**
As a general rule, the impoundment of a jurisdictional tributary remains jurisdictional.
☐ Demonstrate that impoundment was created from "waters of the U.S.," or
☐ Demonstrate that water meets the criteria for one of the categories presented above (1-6), or
☐ Demonstrate that water is isolated with a nexus to commerce (see E below).

E. ISOLATED [INTERSTATE OR INTRA-STATE] WATERS, INCLUDING ISOLATED WETLANDS, THE USE, DEGRADATION OR DESTRUCTION OF WHICH COULD AFFECT INTERSTATE COMMERCE, INCLUDING ANY SUCH WATERS (CHECK ALL THAT APPLY):[10]
☐ which are or could be used by interstate or foreign travelers for recreational or other purposes.
☐ from which fish or shellfish are or could be taken and sold in interstate or foreign commerce.
☐ which are or could be used for industrial purposes by industries in interstate commerce.
☐ Interstate isolated waters. Explain: .
☐ Other factors. Explain: .

Identify water body and summarize rationale supporting determination: .

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[8] See Footnote # 3.
[9] To complete the analysis refer to the key in Section III.D.6 of the Instructional Guidebook.
[10] Prior to asserting or declining CWA jurisdiction based solely on this category, Corps Districts will elevate the action to Corps and EPA HQ for review consistent with the process described in the Corps/EPA *Memorandum Regarding CWA Act Jurisdiction Following Rapanos.*

Provide estimates for jurisdictional waters in the review area (check all that apply):
☐ Tributary waters: linear feet width (ft).
☐ Other non-wetland waters: acres.
Identify type(s) of waters: .
☐ Wetlands: acres.

F. NON-JURISDICTIONAL WATERS, INCLUDING WETLANDS (CHECK ALL THAT APPLY):
☐ If potential wetlands were assessed within the review area, these areas did not meet the criteria in the 1987 Corps of Engineers Wetland Delineation Manual and/or appropriate Regional Supplements.
☐ Review area included isolated waters with no substantial nexus to interstate (or foreign) commerce.
☐ Prior to the Jan 2001 Supreme Court decision in "*SWANCC*," the review area would have been regulated based solely on the "Migratory Bird Rule" (MBR).
☐ Waters do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction. Explain: .
☐ Other: (explain, if not covered above): .

Provide acreage estimates for non-jurisdictional waters in the review area, where the sole potential basis of jurisdiction is the MBR factors (i.e., presence of migratory birds, presence of endangered species, use of water for irrigated agriculture), using best professional judgment (check all that apply):
☐ Non-wetland waters (i.e., rivers, streams): linear feet width (ft).
☐ Lakes/ponds: acres.
☐ Other non-wetland waters: acres. List type of aquatic resource: .
☐ Wetlands: acres.

Provide acreage estimates for non-jurisdictional waters in the review area that do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction (check all that apply):
☐ Non-wetland waters (i.e., rivers, streams): linear feet, width (ft).
☐ Lakes/ponds: acres.
☐ Other non-wetland waters: acres. List type of aquatic resource: .
☐ Wetlands: acres.

SECTION IV: DATA SOURCES.

A. SUPPORTING DATA. Data reviewed for JD (check all that apply - checked items shall be included in case file and, where checked and requested, appropriately reference sources below):
☒ Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: .
☒ Data sheets prepared/submitted by or on behalf of the applicant/consultant.
☐ Office concurs with data sheets/delineation report.
☐ Office does not concur with data sheets/delineation report.
☐ Data sheets prepared by the Corps: .
☐ Corps navigable waters' study: .
☐ U.S. Geological Survey Hydrologic Atlas: .
☐ USGS NHD data.
☐ USGS 8 and 12 digit HUC maps.
☒ U.S. Geological Survey map(s). Cite scale & quad name:Imperial Beach Quadrangle.
☐ USDA Natural Resources Conservation Service Soil Survey. Citation: .
☐ National wetlands inventory map(s). Cite name: .
☐ State/Local wetland inventory map(s): .
☐ FEMA/FIRM maps: .
☐ 100-year Floodplain Elevation is: (National Geodectic Vertical Datum of 1929)
☒ Photographs: ☒ Aerial (Name & Date):Copyright GlobeXplorer (flown January 2009).
or ☐ Other (Name & Date): .
☐ Previous determination(s). File no. and date of response letter: .
☐ Applicable/supporting case law: .
☐ Applicable/supporting scientific literature: .
☐ Other information (please specify): .

B. ADDITIONAL COMMENTS TO SUPPORT JD: .